

CATALOG INFORMATION

Dept and Nbr: CEST 50A

Title: PLANE SURVEYING

Full Title: Plane Surveying

Last Reviewed: 4/13/2015

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	4.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	6.00		Contact Total	105.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 210.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: CET 50A

Catalog Description:
Theory and practice of plane surveying, including measurement of distance and angles, use and care of instruments, error analysis, field problems and office computations.

Prerequisites/Corequisites:
Course Completion or Current Enrollment in APTECH 90A (or CET 90A) OR Completion of MATH 155 or higher (V1) OR Course Completion or Current Enrollment in MATH 155

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Theory & practice of plane surveying, including measurement of distance & angles, use & care of instruments, error analysis, field problems & office computations. (Grade Only)
Prerequisites/Corequisites: Course Completion or Current Enrollment in APTECH 90A (or CET 90A) OR Completion of MATH 155 or higher (V1) OR Course Completion or Current Enrollment in MATH 155
Recommended:

Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area			Effective:	Inactive:
CSU GE:	Transfer Area			Effective:	Inactive:
IGETC:	Transfer Area			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Fall 2017
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

The students will:

1. Define and illustrate types of surveys and sources of surveying information.
2. Demonstrate correct use of surveying measurements including types of units and significant figures.
3. Demonstrate the proper use and care of tapes, levels, and theodolites.
4. Identify the three types of errors and demonstrate the appropriate corrections to be applied to each error.
5. Calculate slope and vertical distances into the appropriate horizontal distance.
6. Use field measured angles and convert them into the appropriate form to complete a traverse computation including balancing the traverse.
7. Use field measurements to prepare a topographic map.

Topics and Scope:

Lecture and Laboratory.

1. Orientation and lab procedures.
2. Units of measurements, errors and accuracy.
3. Use and care of tapes and tapping procedures.
4. Taping and linear measurements.
5. Use and care of levels.
6. Differential, profile and cross section leveling.
7. Use and care of theodolite with horizontal and vertical angle measurements.
8. Traverse and traverse computations.
9. Topographic mapping.

Assignment:

1. Types of surveying units and measurements.
2. Determine error of closures with appropriate accuracy.
3. Determine and correct linear and vertical measurements.
4. Reduce and plot profile with cross-section notes.
5. Convert horizontal and vertical angles to appropriate bearings or Azimuths.
6. Reducing field angles to complete a traverse with appropriate checks.
7. Balancing a traverse by the compass rule.
8. Prepare topographic map.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Field work, Lab reports, Exams

Problem solving
15 - 25%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Field work, Performance exams

Skill Demonstrations
30 - 40%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion, COMPUTATIONAL

Exams
25 - 35%

Other: Includes any assessment tools that do not logically fit into the above categories.

Class Participation

Other Category
0 - 10%

Representative Textbooks and Materials:

ELEMENTARY SURVEYING 9th ed. by Wolf/Brinker, Harper and Row, 1994